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ABSTRACT

Faced with sizable oil revenues and the need and desire to expand and diversify its industrial potential, Saudi Arabia is improving its vocational training efforts and attempting to involve as many of its citizens in vocational training programs as possible. At present, Saudi Arabia is having to import skilled workers to keep up with necessary industrial development. An expansive building program has been initiated involving construction of ten new residential training complexes and expansion and renovation of sixteen others. Annual capacity for trainees will increase from 3,000 to 9,700 by 1982. Job-oriented, competency-based instruction is being implemented to accommodate a variety of needs and to provide an effective use of training time and resources. Instructional packages with accompanying audio visuals are being developed for use with capital intensive labor saving equipment. Developmental testing will be performed on these packages before implementation. An instructor-development program will upgrade instructor skills and help assure successful program implementation. Not restricted to entry level and pre-employment programs, the Saudi Arabian vocational training program will also include a comprehensive on-the-job training program so workers may update their skills. (Figures illustrating the location of training centers and planned complexes are included.) (FP)

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VOCATIONAL EDUCATION TO MEET THE NEEDS OF A
CHANGING SAUDI ARABIA

Clifton P. Campbell

Saudi Arabia, the biggest source of America's imported oil, is determined to develop a diversified economic base. Given this resolve and a highly ambitious five-year \$144-billion dollar development thrust, a modern industrial infrastructure is being created from the sands up. Never before has a country had both the will and the financial resources to build so fast. As a result, however, the need for a skilled workforce is great. (Ibrahim, 1978, p. D1)

Skilled Worker Shortage

Because of its limited human resources and shortage of skilled manpower, Saudi Arabia has brought in more than a million foreign workers to meet the demands of industrialization.¹ Despite this influx of guest workers, it is generally accepted that there must be an increasing number of trained Saudis in the workforce if the industrial development plans are to be realized

¹Saudi Arabia has an estimated 6 to 7 million people, with an alien population of nearly 2 million. A recent study concluded that another 2 million foreigners will be needed to meet the accelerating demand for industrial expertise.

and if the Kingdom is to maintain and control in the future the diversified economic base it is building today.

Recognizing that deficiencies exist in both the quantity and qualifications of the Saudi workforce, the Second Development Plan for the Vocational Training and Manpower Division of the Ministry of Labor and Social Affairs (1975, p. 1) cites as an overall objective the training of the largest possible number of citizens in employable crafts. Under an agreement for technical cooperation in manpower training and development, the U.S. Department of Labor is assisting the Ministry in expanding and improving its vocational training efforts to provide skilled manpower. A needs assessment, Kingdom manpower priorities, employment preferences, and other labor market data provided fundamental information on which to plan the expanded and improved vocational training necessary to meet the Ministry's objective.

Building Program

Modern training facilities, which will house an advanced design instructional strategy supported by state-of-the-art equipment, are being established throughout the Kingdom. These facilities will increase the annual capacity for institutional training from approximately 3,000 to 9,700 trainees by late 1982.

New construction will consist of ten residential campus-type complexes, scheduled for occupancy in 1982. These include an Instructor Training Institute, five Pre-Vocational and four Vocational Training Centers, each with a trainee capacity of 300.

In addition, fourteen existing Vocational Training Centers, one Pre-Vocational Center, and an Instructional Materials Development Center are to be expanded and/or renovated.

The construction program for existing campuses includes mosques, faculty housing, dormitories, clinics, dining, recreational, warehousing, and other facilities. The locations of planned and existing complexes are indicated in Figure 1.

Instructional Program Development

Decisions concerning how many young men should be trained, in what trades, and where, were also made based on findings from the needs assessment and other available data.² Table 1 shows the various trades offered by, and trainee capacities for, existing and planned vocational training centers. Once the trades in which on-going training is to be provided were identified, the development of relevant entry-level pre-employment instructional programs began. A systems approach was used to assure an orderly developmental process.³

²The Ministry of Labor and Social Affairs, Central Department of Statistics, Ministry of Planning, key employers, and other data collecting organizations provide information which is of strategic importance in the planning and managing of training programs to meet the present and projected labor market needs.

³The Systems Approach is a logical process of analysis, design, development, evaluation, revision and quality control. This self-correcting process can minimize failure and maximize success.



FIGURE 1
LOCATIONS OF PLANNED AND EXISTING VOCATIONAL TRAINING COMPLEXES

To bring about the proper bond between an instructional program and work as performed on the job in Saudi Arabia, the course of instruction for each trade is based on job performance information. This includes the tasks which comprise the job and the skills, knowledge, abilities, and responsibilities required of a successful worker. (Campbell, 1976, p. 5) Such authoritative information is derived from a combination of job and task analysis methodologies. By utilizing a combination of analytical methods, any disadvantage associated with one is overcome, thereby lending validity to the process of identifying job performance information.

Based on the compiled job performance and related information, job task statements are prepared by a trade team. Trade teams consist of a Subject Matter Expert (Trade Specialist), Curriculum Specialist, their Saudi counterpart(s), and a Translator/Interpreter. The team also writes a performance objective and a performance guide for each of the job task statements selected for instruction. These entries are recorded on format sheets which are indexed by a numeric code used to identify the trade, unit of instruction and job task. The various sheets are collectively bound in the form of a "trade catalog". The contents of a catalog also include preliminaries -- title page, table of contents, etc., in addition to a functional job description and reference materials such as an appendix listing the tools, equipment and supplies used to perform the job tasks.

During the field review process, each trade catalog is verified through contacts with experienced tradesmen, and validated by incumbent trainers and qualified representatives from the trade serving as craft advisors. The input received from these capable and informed individuals is used to authenticate and/or revise the catalog as appropriate.

These procedures should assure that the resultant product contains complete and accurate job performance and related information before its distribution for intended uses such as:

- development of a standardized course of instruction for Kingdom-wide implementation
- preparation of objective based criterion-referenced measures
- establishing the ideal order (sequence) for the course of instruction
- estimating the number of hours of training required by the program
- providing a basis for developing an "accountable" training program
- compiling a list of the tools, equipment, furniture, and supplies needed for the program
- providing a basis on which to decide what commercially available media can be adapted for use and what must be produced in-house or through selective contracting
- assistance in organization, management, and budget procedures

In order to maintain the completeness and accuracy of each catalog, it is to be subject to periodic updating based on labor market information and recommendations from a craft advisory committee.

The trade catalog can also provide the basis on which to devise vocational guidance and counseling materials, useful in a number of training settings for a variety of target groups. An occupational classification and skill certification plan will be based in part on this authoritative job information together with the recommendations of certification specialists, craft advisors, and others representing potential employers.

Instructional Strategy

The competency based, individualized instruction approach is to be implemented in order to: 1) meet a multiplicity of participant needs in diverse training settings, and 2) train the largest number of citizens effectively. This approach is especially appropriate considering the open admission policy in effect at pre-vocational and vocational training centers.⁴

⁴While the admissions policy is considered "open" at both pre-vocational and vocational training centers, there are several criteria which govern matriculation. These criteria include: 1) medical clearance, 2) presentation of a birth certificate to establish nationality and age, and 3) certification of five or more years of schooling or two years of an intensive night school program. Applicants for pre-vocational training should be 14 to 17 years old and for vocational training 18 to 30. Graduates of pre-vocational centers can be admitted to vocational centers at age 16.

Because of open admissions, the group of trainees in an instructional program will have differing backgrounds and levels of readiness.

Competency based training assures that graduates will have demonstrated the ability to perform at the established competency level, specific tasks in their instructional program. It awards advanced standing for prior learning where competencies can be demonstrated. Diagnostic analysis procedures will aid in determining the appropriate starting point in the instructional program for each trainee. This will help to avoid discouragement and promote success.

The model being used for competency based instruction is fundamental and uncomplicated. Figure 2 illustrates the basic pattern and how it is meant to function. The objectives are those needed for successful performance at the job entry level, the training experiences would be meaningful and relevant to the objectives, the established level of competency would be achieved, and the competency would then be applied with some expertness on the job.

Should the expected skills, knowledge, and attitudes fail to appear at the application stage, the validity of the performance objectives, the methods by which they were supposedly achieved, and the competency assessment will all be questioned. The element of accountability is built in at each step in this process.

Individualized instruction, the kind available under the

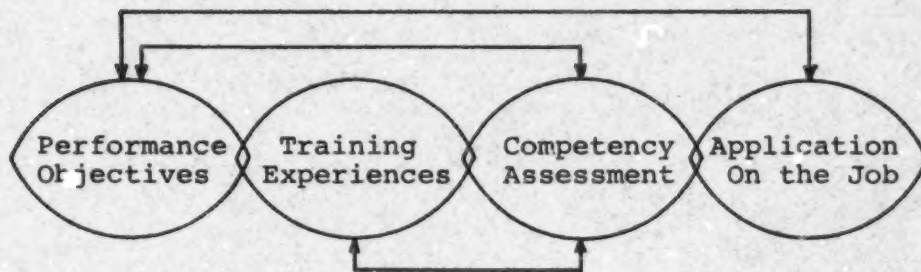


Figure 2

Basic Pattern for Competency Based Instruction

guidance of a tutor, can provide for different levels of readiness. It permits each participant to progress at his own rate of comprehension and learning, according to personal abilities, needs, interests, and learning style. Individualized instruction removes traditional time constraints which can impede progress and lets each participant move at his own best speed. Trainees are not discouraged by going too fast, nor are they bored by a slow pace.⁵

This facilitates early program completion by some, allowing admission or graduation throughout the training cycle. Each time there is a vacancy in an instructional program, someone from a waiting list will be able to begin. Individualized instruction can also free instructors for remedial work, enrichment, counseling, or any other functions which require their special skills.

Competency based, individualized instruction, which reflects the performance requirements of the trade being taught, maximizes trainee and instructor potential. It also permits

⁵Slowness in the learning process can reflect many things. It may indicate a high level of interest which keeps one from rushing through a learning experience. It can show a desire to be thorough, cautious, careful about details, or a host of other possibilities. Extreme slowness may also indicate intellectual inadequacy. One who learns quickly is not necessarily a better learner than one who takes a longer period of time.

greater utilization of support staff, physical facilities, and equipment. It works, and it's accountable. However, it requires a considerable developmental investment in preparing training materials, such as instructional packages and media, which are designed to accommodate individual differences and produce competent graduates.

Instructional Packages

Instructional packages have demonstrated elsewhere their effectiveness in promoting learning. They provide an organized procedure for delivering competency based, individualized instruction to trainees on a personalized basis.

Among the advantages of instructional packages which makes their selection for use appropriate in Saudi Arabia is that they carry much of the load of supervising training experiences. Instructional packages can free an instructor from the role of a full-time transmitter of knowledge and skills for other important duties. Such duties include evaluating, counseling, enrichment, and individual tutoring as the need arises. (USAF School, 1974, p. 7-66)

Instructional packages are also useful in directing trainees with a wide variety of individual needs and interests, through sequential training activities and corresponding resources which enable them to meet performance objectives.

Furthermore, the pre-packaged instructional materials being developed will assure that each trainee is exposed to a uniform course of instruction. This course of instruction is

based on pre-determined job tasks and performance requirements made available through the trade catalog. The systematic approach being used in developing instructional materials and the logical method of presenting them will undoubtedly maximize trainee success in the instructional program.

The form of instructional package to be used by the Saudi Arabian Ministry of Labor and Social Affairs, Vocational Training Directorate has been standardized and is presented in an illustrated, printed, consumable booklet.

The instructional package (PAK) format evolved over a period of investigation and discussions. It was modified and revised several times to bring it nearer to the comprehensiveness desired. Each PAK now contains the components deemed necessary for guiding trainee progress, and in organization is not unlike that of some other instructional packages developed elsewhere.

These criterion-referenced, developmentally tested PAK's are not modified text, reference, or workbooks, nor are they programmed learning texts. However, they do contain many of the advantages inherent with each. Instructional packages are a carefully designed and sequenced method of delivering self-paced instruction in printed form to individual trainees.

PAK's are made up of four fundamental components:

- 1) the introductions, 2) a pre-check, 3) instructional modules, and 4) a post-check. The first component, the introductions, consists of a) an introduction to the PAK, b) the terminal

performance objective, and c) the procedure for using the PAK. These three items, together with the title of the instructional package, a numeric code which specifies the trade, unit, PAK, and page number, and other information as necessary, are presented on the first sheet.

A trade catalog provides the job tasks selected for instruction and their accompanying performance objectives. Each of these performance objectives when written in behavioral terms becomes a terminal performance objective for purposes of PAK development.

A trainee begins the PAK by reading the introduction which provides the setting for the topic. It includes a brief overview of the information within, and a concise motivational comment explaining the relevance and importance of what is about to be learned. In a short and clear statement, it details the reason(s) why it is important to learn this material.

The terminal performance objective is stated in behavioral terms that trainees can understand. It tells them what they must be able to do, the conditions under which they will perform and the minimum or expected level (standard) of performance. When mastered, the terminal performance objective will equip the trainee with the competence needed for the performance of a job task. Specifications stated in the terminal performance objective are used to develop the criterion-referenced measures incorporated in the pre- and post-checks. The PAK introduction and the terminal performance objective can also be effectively

combined in a single expressive narrative.

Any instructions that are necessary to facilitate using the PAK are supplied in the procedures. This might include a safety message and directions on when to consult with the instructor. However, on occasion, instructions may be unnecessary, and in those instances they need not be included on the introduction sheet.

The procedures can also include a table of contents type listing of all instructional modules which make up the PAK. This list of modules may serve as a learning guide where the results of the pre-check can be recorded. These results provide a trainee profile which indicates the modules to be studied and those where competency has been demonstrated.

The second component of an instructional package is a pre-check, or pre-test, with an answer key. It is designed to determine the extent of trainee competency prior to PAK exposure. The pre-check will ascertain which of the enabling objectives, if any, the trainee has already attained through another learning situation, reading, or work experience.

Results of the pre-check can be used to diagnose and prescribe which instructional modules a trainee needs to complete. Trainees need only complete those modules within a PAK which present skills and/or knowledge they do not already possess. This provides for bypassing the entire PAK or entering it at various points.

When trainees feel that their exposure to the content

of a PAK is limited, they may omit the pre-check and begin with the first instructional module. They may also elect to simply review the pre-check to gain a sense of what learning is about to take place. The pre-check component may be omitted from a PAK when it is deemed unnecessary.

The third component, which comprises the bulk of an instructional package, consists of a number of generously illustrated printed modules of instruction. A module is described by Mager (1977, p. 2) as a combination of the instructions, content, and activities which facilitate the development of a desired competence. Some self-contained modules present essential knowledge, some provide hands-on practice experience to gain skills, while others integrate the required knowledge, skills, and attitudes. Instructional modules will vary in length as well as in the type of content and activities involved. However, with consideration to trainee interest and perseverance, the length of modules should be kept within reasonable bounds.

Modules are contrived to direct a trainee through sequential training activities and corresponding resources. These relevant training activities and learning resources facilitate the development of competence in performing the desired job task.

Modules are titled, numbered and sequenced within a PAK from the simple to complex, the concrete to abstract, or in some other logical way so as to build progressively knowledge

and skills which will enable the trainee to attain the terminal performance objective.

Each instructional module is made up of: a) an enabling objective, b) a training activity(s), c) resources, and d) feedback. The first part of the module consists of the enabling or sub-objective and on occasion an optional introduction to the module. When used, the introduction is prepared according to the same guidelines presented for the introduction to the PAK.

The enabling or sub-objective is a prerequisite through which a trainee progresses in order to achieve the terminal performance objective of the PAK. Each enabling objective is written for the target group in behavioral terms according to criteria previously discussed for a terminal performance objective.

The next part of the instructional module is the training or learning activity(s). This experience provides for the application of a skill or knowledge derived from the resources furnished. Each activity must be consistent with the behavior stated in the enabling objective so that after completing the experience a trainee is able to achieve the desired performance. The sequential training activity frequently includes check-points where trainees self-check their step-by-step progress or seek instructor assistance for specific purposes and to insure that they are moving ahead satisfactorily.

Many of the required resource sheets may be prepared from

available materials. Other resource materials can be developed by the instructor. For maximum effectiveness in attaining the enabling objective, resource sheets ought to be written in a brief no-nonsense style. They should utilize numerous easy-to-follow illustrations, charts, plans, and other graphics which help explain or make things clear. Examples, analogies, underlining, setting important points off in boxes, and the like can help to emphasize information.

Feedback is the last part of each instructional module. It is intended to keep the trainees informed of their personal progress and identify areas of weakness. Feedback enables trainees to obtain some type of information concerning the correctness of their responses to the training activity prior to undertaking the post-check. Types of feedback depend on the kind of training activity and range from models, as well as other examples of acceptable exercises, to answers for multiple-choice questions.

The feedback experience will be used by trainees individually as a method of self-checking their achievement of the enabling objective. When trainees have not reached the acceptable proficiency level, they may recycle through the module in order to assure success in the post-check. This procedure is suggested in implementing individualized training; otherwise, every trainee would require instructor input for each enabling objective. When trainees have successfully completed all the necessary feedback experiences, they are ready to undertake the post-check.

A fourth, and final, component of an instructional package is the criterion-referenced measure⁶ -- post-check or post-test. The post-check, which is similar to the pre-check in what it measures, will be used to assess a trainee's achievement of the terminal performance objective following PAK completion. Because it is not possible to measure all outcomes of instruction with one type of test, various types must be used. These will range from written tests with multiple choice and other types of items which measure the achievement of knowledge, to manipulative performance tests with drawings, specifications, etc., and checklists or rating scales used in evaluating trainee performance.

When trainees successfully complete the post-check, they proceed to the next unmastered instructional package. However, when they do not achieve the minimum level of competency required to meet the terminal performance objective, arrangements are made with their instructor to: 1) complete modules previously bypassed, 2) repeat training activities, 3) review supplementary resources, 4) complete additional activities,, or perform some other related activity before repeating the post-check. (The Center for Vocational Education, 1977) Competency is assured because the instructor directs the trainee into meaningful activities that eventually lead to mastery of the objective.

⁶Criterion referenced testing grades by comparison to a standard irrespective of the performance of other trainees..

Instructional packages and their component modules are delivered in a manner which allows utilization by individual or small groups of trainees. Individual use does not mean that a trainee sits in front of a box (carrel) working on a PAK in isolation. The instructional package is designed for use under the direction and with the assistance of an instructor.

PAK's can be used to support an instructor demonstration in which all steps are explained and shown and the finished product can be seen. The instructor demonstration, a proven training method which functions well, provides the big picture so that trainees can proceed step-by-step according to the instructions provided by the PAK. (USAF School, 1974, p. 7-66)

Instructional Media

While some trainees are proficient with and will use illustrated printed materials effectively, others require or will choose media. It is therefore important to attend to these various learning styles by identifying or developing instructional media. Various types such as audio and video cassette tapes, sound filmstrips and sound slide programs can effectively augment printed materials.

The availability of printed instructional packages enriched by appropriate media will provide a range of training options for attaining each enabling objective. This will undoubtedly contribute to increased motivation and heightened interest, thereby promoting learning. Both media and the printed materials it will augment are being refined to a

literacy level which accommodates variations in the backgrounds and educational experiences of trainees.

Early media output is confined within limits by the size of the production staff and a concentration on those forms which use available, easy to operate and simple to maintain hardware. Emphasis is being placed on those forms of media which can be produced within a reasonable amount of time with available equipment. The plan is to move from relatively simple mediation to the more complex, making every effort to maintain continuity and avoid duplication of effort.

Technology based instructional devices (hardware) such as 16mm motion picture projectors, overhead projectors, 35mm filmstrip and slide projectors, audio tape recorder/players (cassette type), and video cassette systems will be used by instructors and trainees. Carrels equipped with filmstrip and slide projectors, cassette tape players and other audio-visual hardware, will be strategically located in each instructional area. Projectors and cassette tape players used in carrels will be furnished with headphones to enhance concentration by shutting out disruptive background noises.

Video cassette systems are growing in popularity with Saudis for entertainment in the home. Dormitories are designed to include study and recreational facilities which could include video cassette players. The general availability of this equipment may offer a new study option where video taped training materials can reach beyond the workshop. Instead of carrying

home traditional materials for review and study, a trainee would be able to check out a video cassette, take it to his home or dormitory, insert it into a player unit, and improve his skills and knowledge from this novel instructional medium.

Assuring the Effectiveness of Instructional Materials

The degree of success that is achieved with PAK's and the media which augments the component modules is partly dependent upon the thoroughness of the design, planning, development, and editing that precede each finished product. Nevertheless, before instructional materials are implemented, they will be subjected to developmental testing against criterion-referenced measures to see if they teach what they were designed to teach.

Developmental testing, a key component of the systems approach, will determine the validity of content and sequence in terms of trainee achievement. It also helps identify objectives which are difficult for trainees to attain. Such objectives are destined for multi-media treatment in order to promote learning.

An evaluation of procedures for using instructional packages and media will also be conducted. This is necessary because the longer it takes a trainee to decipher directions, the less time and effort is spent on actual learning. Thus developmental testing includes an evaluation of the instructions as well as the instruction.

The developmental testing plan to be used includes

individual product tryouts, small group, and operational or field testing. Each PAK or mediated component is validated when testing gives enough consistent results to establish with confidence that it will be successful in meeting the stated objective when used under appropriate conditions for the target population. Developmental testing will make known necessary revisions and adjustments in text, illustrations, etc. which will be made prior to each successive trial and ultimate product implementation.

To be effective in promoting learning, instructional packages and media must be acceptable to trainees. If the trainees do not react favorably, the materials are of limited value, regardless of how scientifically correct or educationally sound they might be. Therefore, the testing plan includes an analysis of trainees' attitudes toward the materials, as well as their test performance. After all necessary corrective measures are taken and the products are judged valid and useful, they will be ready for Kingdom-wide implementation.

Observations of the products in use and data collected during each program offering will be used to continually improve the reliability of PAK's and media. Feedback from instructors and trainees, follow-up surveys on the performance of graduates at the workplace, along with labor market information and recommendations from craft advisory committees will also be used to improve the training program. This feedback process exists to modify and update instructional materials

when inconsistencies are discovered between the training program and the needs of trainees and the job. The process of upgrading is recognized as a necessary and never-ending requirement in a self-correcting competency based, individualized instruction approach.

Instructor Development

The instructor plays a vital part in the implementation of this competency based, individualized instruction approach. Because in-service instructors are not familiar with the instructional approach, a development program is to be conducted. This program will provide training on how to fully execute the instructional approach with emphasis on small group, activity based training and one-to-one instructor/participant interaction. Instructors will also receive training dealing with the interpersonal skills necessary for expanding their role flexibility in training/learning situations.

Instructors will become thoroughly familiar with the particular course of instruction and instructional materials they will be responsible for. When required, specialized training will be provided, i.e. the operation and maintenance of a new machine or instructional device. Since instructors will be accountable for trainee testing, they will be familiarized with test administration procedures.

The development program includes follow-on activities and back-up support for instructors during actual program implementation. This effort to upgrade instructor skills will

help insure the successful implementation of competency based, individualized instruction.

On-the-Job Training

Even though updated and expanded, the training efforts of vocational centers alone will not be sufficient to satisfy the total requirement for skilled Saudi workers. Nor can vocational centers provide the sole means for adding to and updating the job related skills of an entire workforce. However, a comprehensive on-the-job training (OJT) program can reach a large part of the workforce while contributing to increased productivity. Such a program in conjunction with the efforts of vocational centers is an important means of training the largest possible number of citizens in employable crafts.

For OJT to achieve its full potential in Saudi Arabia, both workers and employers must be convinced of the importance and value of on-going in plant programs which train workers while they produce. The strategy proposed to overcome constraints and increase program visibility consists of several interrelated activities.

One such activity is the establishment of a functional linkage between pre-employment training at vocational centers and OJT in an employer's facility. Among the benefits of this linkage to vocational center graduates will be: 1) assistance in the transition from institutional training to entry level work, and 2) the continuing training and work experience needed for advancement to full journeyman status in a trade. Under

this plan, trainees will receive career counseling while attending a vocational center. As a result, some will be identified as needing or seeking additional training and experience within the real work environment. After completing their program of study, selected individuals will be placed with cooperating employers where they will receive wages while participating in a special OJT plan.

An agreement between the employer, trainee, and a vocational center will provide for this worker-trainee development plan. The written agreement will stipulate work experiences as well as training specific to a job and necessary for trade advancement. The worker-trainee will upgrade his skills in a systematic manner for a pre-determined period under the close supervision of a cooperating craftsman. The foreman and an OJT coordinator will make sure, to the extent possible, that assignments are made with respect to the worker-trainee's level of capability. These work assignments will progress in increasing order of difficulty throughout the development program. Also, to the extent possible, the period of training will be goal oriented to assure that the worker-trainee is not kept on any task longer than necessary to become proficient. Upgrading skill and knowledge through rotational assignments is fundamental to a successful OJT experience.

In addition to those OJT plans established in association with vocational training centers, employers in the public and private sectors are being encouraged to start up or expand their

own in-house capabilities.⁷ Assistance is available to interested employers in the development of customized OJT schemes for their own operations. A model OJT plan is also being developed. It will include all the provisions and support materials necessary to facilitate a continuing progression of Saudi workers, from entry level jobs to the highest skill level each individual can attain.

Additional activities being conducted which are essential to the success of the comprehensive OJT program include: 1) the establishment of standards for Occupational Classification and Skill Certification, 2) a conference and workshops dealing with human resource development issues, for personnel associated with OJT, and 3) a public relations and recruitment campaign to promote awareness of OJT assistance available to employers and the opportunities for interested workers.

⁷Existing inducements for OJT include legislative incentives and generous government subsidies for approved training within the Kingdom and abroad. A provision in the Saudi Labor Law requires that every employer of 100 or more employees is to offer vocational/technical training to Saudis in a proportion not less than 5% of the total number of employees. A Council of Ministers' Decree stipulates the rules and procedures for issuing training subsidies to OJT programs conducted by government or private industry.

The comprehensive OJT program is a necessary extension of vocational center efforts and will undoubtedly make a significant contribution to supplying the skilled Saudi workers that are so desperately needed.

Epilogue

Saudi Arabia is a nation set on using oil revenues to expand and diversify its industrial potential. In order to meet the present and projected skilled manpower requirements of industrial development, the Ministry of Labor and Social Affairs is in the process of expanding and improving its vocational training efforts. The Ministry's objective is to train the largest possible number of citizens in employable crafts so that they can contribute to and participate fully in the Kingdom's economic growth.

A building program for new and enlarged residential training complexes with state-of-the-art equipment will increase the annual capacity for institutional training from 3,000 to 9,700 trainees by late 1982. New construction will include ten residential campus type complexes located throughout the Kingdom. Sixteen existing facilities are to be expanded and/or renovated.

An important means of improving the vocational training effort is the implementation of job oriented, competency based, individualized instruction. This instructional strategy will meet a multiplicity of participant needs in diverse training settings while maximizing trainee and instructor potential. Competency based, individualized instruction, linked with

work as performed on the job, will undoubtedly revitalize vocational training in Saudi Arabia, because it will assure that graduates are effectively prepared to enter a trade. It will also provide for effective and efficient use of training time and learning resources.

Training materials such as instructional packages and media, designed to accommodate individual differences and produce competent graduates, are being developed specifically for Saudi Arabia. Instructional packages are designed for use with capital intensive labor saving equipment which will incorporate a variety of audio and visual aids. However, before instructional packages and the media which augments them are ready for implementation, they will be subjected to developmental testing. This is done in order to insure quality so that trainees will achieve the objectives after instruction.

Once established, the course of instruction and training materials for each trade will facilitate a standardized Kingdom-wide trade training program. An instructor development program will upgrade instructor skills and help assure the successful implementation of competency based, individualized instruction.

Vocational training will not be restricted to merely providing entry level, pre-employment programs. Graduates of vocational centers and employed workers will have opportunities to continue their training on-the-job and/or after working hours. A comprehensive on-the-job training program is being developed so that Saudi workers can add to and update their skills while performing a productive role in Saudi industrialization.

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